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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,484	06/15/2006	Jacob M.J. Den Toonder	GB030225	7263

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER	
PIZIALI, ANDREW T	
ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
06/27/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/596,484	DEN TOONDER ET AL.	
	Examiner	Art Unit	
	Andrew T. Piziali	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) *14* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed on 5/12/2008 has been entered.

Election/Restrictions

2. Applicant's election with traverse of Group I and Species 1, in the reply filed on 5/12/2008, is acknowledged. The traversal is on the ground that at least one independent claim does avoid the prior art. This is not found persuasive due to the teachings of the below rejection.

3. It is noted that the applicant indicated claim 14 as elected, but claim 14 is drawn to Species 2 (Figures 3 and 4). Therefore, claim 14 is withdrawn.

4. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the form of an elongated core" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 6, the overall weight percentage (e.g., weight of the overall fiber or weight of the volume modulation coloration substance) is not defined for the claimed polymer gel particle weight percentage or the gel solid content weight percentage. Therefore, it is not clear what percentages are being claimed.

Regarding claim 9, the word "flexible" renders the claim indefinite because all materials are flexible to a degree. The current specification fails to provide any guidance as to the degree of flexibility required to be deemed "flexible."

Regarding claim 10, the word "type" extends the scope of the expression so as to render it indefinite. See MPEP 2173.05(b).

Regarding claim 13, the phrases "tens of μm to hundreds of μm" and "typically 100μm" render the claim indefinite. The distances of "tens of μm" and "hundreds of μm" render the claims indefinite because it is no clear what specific distance range is being claimed. The word "typically" renders the claim indefinite because it is unclear whether the limitation following the phrase is part of the claimed invention.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,287,485 to Akashi in view of USPN 4,681,791 to Shibahashi.

Akashi discloses an article comprising: a volume modulation coloration producing substance (20); containment means (24) for containing the substance in form in which containment means is at least partially light transmitting; and stimulation means (22) for stimulating the substance to produce a change in the volume of the substance, thereby changing the color of the article (see entire document including Figure 2, column 4, lines 50-66, and column 12, lines 44-51).

Akashi does not appear to specifically mention constructing the color changing article in the shape of a fiber, but Shibahashi discloses that it is known in the fiber art to construct thermochromic sheath-core fibers (see entire document including column 1, lines 5-16 and column 6, lines 3-16). It would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the article of Akashi in the shape of a fiber, as taught by Shibahashi, motivated by a desire to form color changing fibers with high contrast, excellent durability, and excellent response.

Regarding claim 2, the substance comprises a volume modulation colorant (column 4, lines 50-66).

Regarding claim 3, the volume modification colorant comprises artificial pigment cells (column 8, lines 7-22 and column 10, lines 12-31).

Regarding claim 4, the volume modulation colorant comprises polymer gel particles, which particles are immersed in an aqueous solution, the polymer gel particles and aqueous solution together forming the substance (column 4, lines 50-66, column 8, lines 7-22, and column 10, lines 12-31).

Regarding claim 5, the polymer gel particles have a diameter falling within the range of 0.01 μm to 5 mm (column 10, lines 12-31).

Regarding claim 6, particle concentration is in the range of 5 to 95% by weight of the coloration producing material (column 9, lines 30-48).

Regarding claim 7, Akashi does not appear to specifically mention constructing the color changing article in the shape of a fiber, but Akashi does disclose that the outer layer provides a containment means (Figure 2 and column 12, lines 44-58). Shibahashi discloses that it is known in the fiber art to construct thermochromic sheath-core fibers (see entire document including column 1, lines 5-16 and column 6, lines 3-16). It would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the article of Akashi in the shape of a fiber, with the outer sheath comprising a containment means, motivated by a desire to form color changing fibers with high contrast, excellent durability, and excellent response.

Regarding claim 8, the outer layer is transparent to allow the inner color to be seen (column 12, lines 53-58 and Example 6).

Regarding claim 9, the outer layer is formed of a polymer (column 12, lines 53-58).

Regarding claim 10, the stimulation means comprises heating means for heating the substance, and the volume modulation colorant is of the type having a volume that changes with temperature (column 4, lines 50-66).

Regarding claim 12, the article comprises a means for causing an electrical current to flow through the heating means (column 12, lines 36-44).

9. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,287,485 to Akashi in view of USPN 4,681,791 to Shibahashi as applied to claims 1-10 and 12 above, and further in view of USPN 5,824,996 to Kochman.

Akashi does not appear to specifically mention an inner electrode extending axially through the core, but Kochman discloses that it is known in the heated fiber art to locate a heating means axially in the core of the fiber (see entire document including column 9, lines 10-20 and Figure 8). It would have been obvious to one having ordinary skill in the art at the time the invention was made to locate the heating means in any suitable location, such as axially in the core of the fiber, because it is within the general skill of a worker in the art to select a known location on the basis of its suitability and desired characteristics.

Regarding claim 13, the thickness of the volume-modulation coloration composition is 1 to 500 μm.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew T Piziali/
Primary Examiner, Art Unit 1794